Name: Rachel Fischhoff Grade: 5 Date: May 3, 2012

Nets

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| Lesson Sources: n/a |
| Lesson Objectives: Students will use nets to make discoveries about the faces, edges, and vertices of 3D solids. |
| Standards: |
| Multicultural Content: |
| Materials and Advanced Preparation: Net printouts, scissors, tape, anchor chart |
| Prior Knowledge and Skills Needed: knowledge of 3D solids and nets |
| Key/New Vocabulary: n/a |

Lesson Procedure: Part One

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| **Time** | **Teacher Actions** | **Student Learning Activities** | **Form of Assessment** |
| 1 min | **1. Connection**   * Mathematicians, yesterday you did some very strong thinking about the ways in which 3D solids can be represented by a 2D figure—a net. * Today we are going to expand your thinking by using nets to build 3D solids. | Explain purpose of mini-lesson |  |
| 10 min max | **2. The Teaching (The Giving of Information):**   * Today, you will be using nets to explore the faces, edges, and vertices of 3D solids. * You will be looking at a net and making predictions about the solid it will create, *and*  the number of faces, edges, and vertices that solid has. * Watch while I make some predictions about this net… * Hmmm, I see that it has a two circular bases, so I know this one is going to be a cylinder. I can count three faces….but I’m just not sure about vertices…I’m going to guess….2. * Now I’ll cut it out, and tape it to create my solid. * Okay, I believe I was correct, this is a cylinder. And my prediction was correct, there are 2 faces. But, I’m not so sure about vertices. Now that I’m looking at it, I don’t think this shape has any vertices at all! No single points where two or more edges meet. | * Active listening | * Active listening * Some questions/comments |
|  | **3. Have-A-Go (optional)**   * Okay, now it’s your turn. Take a look at this second net. * With a partner, make these same predictions—what solid will it be, how many faces, edges, and vertices will it have? * Share out predictions * Cut and create 2nd solid * Confirm/disprove predictions | How will students be actively involved?  By:   * Practicing the mini-lesson * Partner Talk | * Conferring * Share out |
|  | **4. The Link**   * Today you will be working to create your own solids from nets just like these. And, you will be making predictions. In your notebook, record you predictions: what shape will it be? How many faces? How many edges? How many sides? * Expectation: everyone completes 3 | **(Workshop Time)**   * Students will follow the steps outlined in the minilesson to explore nets and solids | * Conferring |
|  | **5. Closing (at the share)**   * Net museum—gather the nets on the rug, try out different ways to arrange (categorize) the nets. * (eg: prisms and pyramids, with circular faces and without circular faces, number of edges, number of vertices…) * Record different categories | * Share discoveries—were any surprising? * What about edges? * Then, move into categories | * Collect categorization ideas on chart |

**Reflections:**

How did the lesson plan work? What was effective? What did you learn? What would you change for tomorrow or the next time you will use this plan?